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## Shear Stability Testing



European OEMs recently introduced the KRL tapered bearing shear test to provide better differentiation among shear stable polymers. This test fills the gap between older shear tests (Orbahn and Sonic) and the demanding real world of gear lubricants. Recent tests have shown that the 20-hour CEC L-45-T-93 shear test provides the best correlation to actual field performance when compared to other industry shear tests. During this test, the lubricant is tested in a taper bearing fitted into a Four-Ball EP test machine. The taper roller bearing runs submerged in 40 mL of lubricant at constant speed and load at 60°C for a defined number of motor revolutions or running period.

### Typical Test Conditions:

Temperature:

60  $\pm$  1°C

Speed:

1475  $\pm$  25 rpm

Duration:

4, 8, or 20 hours

Load:

5000  $\pm$  200 N (510  $\pm$  20 kgf)

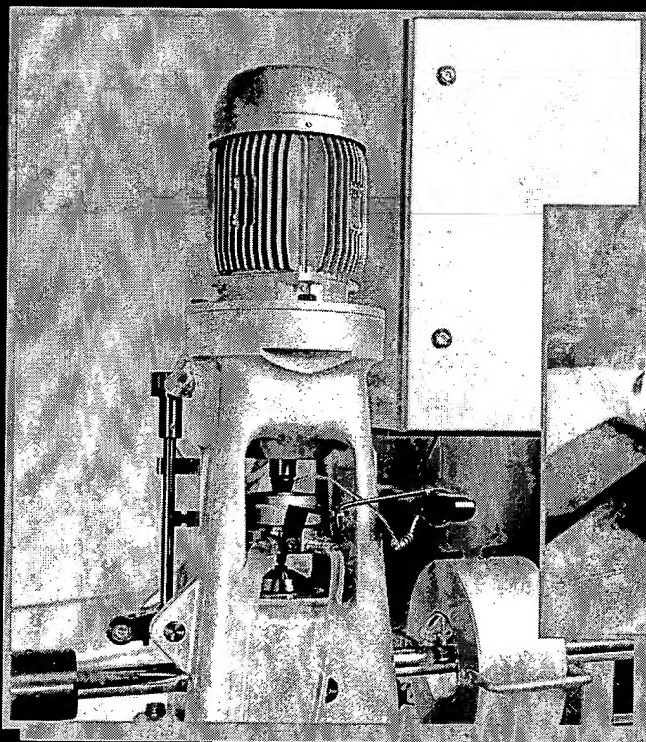
### Related Test Methods:

The multiple use variations of this instrument allow VW shear tests and EP Four-Ball to also be performed on this apparatus.

Other shear tests include

ASTM D 5275 FISST, ASTM D 5621, and

D 2603 Sonic Shear, as well as CEC L-14-A and ASTM D 6278 European Shear.



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